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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,904	10/29/2003	Timothy Minter	1444-0097	9205
26568	7590	02/08/2006	EXAMINER	
COOK, ALEX, MCFARRON, MANZO, CUMMINGS & MEHLER LTD SUITE 2850 200 WEST ADAMS STREET CHICAGO, IL 60606			THOMAS, LUCY M	
			ART UNIT	PAPER NUMBER
			2836	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/697,904	<b>Applicant(s)</b> MINTEER ET AL.	
	<b>Examiner</b> Lucy Thomas	<b>Art Unit</b> 2836	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The newly submitted oath or declaration received on December 29, 2005 is in compliance with 37 CFR 1.67(a), and is acceptable.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the 53 volts output of Claims 12 and 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 8-11, 13-14, 17-21 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al. (US 6,347,027) Regarding Claim 1, Nelson discloses a recloser control apparatus compatible with various reclosers (Figure 2, Figure 11, Column 30, lines 20-60, Column 31, lines 14-24), comprising a control interface system 208, 216 capable of providing control signals for a plurality of different reclosers having different control requirements, the interface system including a convertible charging system (provided in 222, see Figure 2) adaptable for producing control voltages for controlling trip and close apparatuses of various reclosers having different control voltage requirements (Column 6, lines 37-43, 58-67, Column 7, lines 1-3). The reference teaches that the recloser control apparatus can be used with various existing recloser systems of different control requirements. Therefore, with each system it produces control voltages required for the system. Because it is capable of producing control voltages for each system it would be able to produce corresponding voltage, in another words, since the system is adaptable, it would necessarily be a convertible

charging system. Therefore, it is believed that the reference meets the claimed limitations.

Regarding Claim 2, Nelson discloses an input power converter (provided in 222, see Figure 2) for providing the control interface, including the charging system with a 12 volt bus signal, the power converter being responsive to a source voltage to produce the 12 volt bus signal (Figure 2 discloses DC/DC converter outputs of 5, 12, and 24 volts (Column 5, lines 59-65, Column 7, lines 15-18). Regarding Claim 3, Nelson discloses an element (provided in 222, see Figure 2), which includes a DC/DC converter, which outputs various voltages necessary to power the recloser control apparatus. Regarding Claim 5, Nelson et al. discloses a battery (provided in 222, see Figure 2), battery charge control logic and a battery charger circuit for maintaining the battery in a charged condition (Figure 2, Column 7, lines 15-18). The battery charge control logic and the battery charge circuit are both necessarily provided in the DC/DC converter.

Regarding Claim 8, Nelson discloses the recloser control apparatus further comprising a circuit (provided in 222, see Figure 2) for producing a control voltage for controlling a trip and close apparatus for a particular recloser, and wherein the convertible charging system is adaptable for producing another control voltage for controlling a trip and close apparatus for at least another recloser (Column 31, lines 14-24). Regarding Claim 9, Nelson discloses the apparatus, wherein the control voltage produced by the circuit is 12 volts (see 12 volts output of DC/DC converter in Figure 2). Regarding Claim 10, Nelson discloses the apparatus, wherein the control voltage produced by the convertible charging system is greater than 12 volts (see 24 volts

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output of 222 for control of 204). Regarding Claim 11, Neslon discloses the apparatus, wherein the control voltage produced by the convertible charging system is 24 volts (see 24 volts output of 222 for control). Regarding Claim 13, Neslon discloses the apparatus, wherein the trip and close apparatuses are trip and close coils (see 204 in Figure 2, Column 5, lines 57-65, Column 31, lines 14-24).

Regarding Claim 14, Neslon discloses a control interface system 206 (see Figure 2) capable of providing control signals for a plurality of different reclosers having different control requirements, the interface system, comprising a circuit (provided in 222, see Figure 2) for producing a control voltage for controlling a trip and close apparatus for a particular recloser, and a convertible charging system (provided in 222, see Figure 2) adaptable for producing another control voltage for controlling a trip and close apparatus for another recloser (Column 6, lines 37-43, 58-67, Column 7, lines 1-3). The reference teaches that the control interface system can be used with various existing recloser systems of different control requirements. Therefore, with each system it produces control voltages required for the system. Because it is capable of producing control voltages for each system, it would be able to produce corresponding voltages, in other words, since the system is adaptable, it would necessarily have a convertible charging system. Therefore, the reference would meet the claimed limitations. Claims 17-20 recite the elements of Claims 9-11, except that Claims 17-19 recite a recloser control apparatus whereas Claims 15-16 recite a control interface system. The recloser control apparatus (Figure 2) taught by the reference comprises the control interface system 206.

Regarding method Claims 21 and 23-24, the recited steps would necessarily be performed when using the recloser control apparatus recited in Claims 1-2. Therefore, please see the rejection for Claims 1-2 above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4, 12, 15-16, 20, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 6,347,027) in view of Yamaguchi (US 6,492,891).

Regarding Claim 4, Nelson discloses an element 222, power supply/battery backup, which has a DC/DC converter with outputs 5, 12 and 24 VDC for control, communication and switch actuation, and is computer controlled, however, Nelson focuses on the method for controlling an electric power distribution system and does not provide details on the charging system components recited in Claim 4, comprising an input capacitor, a flyback transformer, a switching element with a control circuit, an output filter and a capacitor discharge circuit. Yamaguchi discloses a charging system 420, which includes an input capacitor 412, a flyback transformer 421, a switching element 422, and an output filter 423, 424 (Figure 14, Column 7, lines 53-67, Column 8, lines 1-6). The Yamaguchi reference is relied upon solely to disclose details of the charging system. It would have been obvious to one of ordinary skill in the art at the

time of the invention that the charging system of Nelson would include a charging system as taught by Yamaguchi which provides the recited elements to efficiently and reliably providing charge voltage levels.

Regarding Claim 12, Nelson does not disclose the apparatus, wherein the control voltage produced by the convertible charging system is 53 volts, however, with respect to the recitation of 53 volts, those skilled in the art would recognize that the control voltage needed would be dictated by system requirements. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable value by routine experimentation. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 15-16 and 20 basically recite the elements of Claims 4 and 12 respectively, except that Claims 4 and 12 recite the recloser control apparatus whereas Claims 15-16 recite the control interface system. Claim 22 recites the capacitor of the charging system recited in Claim 4 as part of the method claim of the recloser control apparatus. Claim 25 recites the method step further comprising supplying voltage directly from the voltage bus signal as a control voltage to control trip and close apparatuses of one of the reclosers, which would necessarily be performed in any system provided the bus signal voltage is same as the control voltage of the recloser.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 6,347,027) in view of Gul (US 6,555,748). Although not shown, the recloser control apparatus necessarily is provided with a housing. There are no details provided about the housing or its structure. Gul discloses a housing 12 with a removable plate



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50 with an opening 58 (Figures 3 and 4) for attaching cable assembly 62,18. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide in a housing of Nelson et al. a removable plate with an opening as taught by Gul to mount a wiring connector between the recloser control apparatus and the recloser. This configuration securely and reliably mounts a cable assembly in a housing.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (US 6,347,027) in view of Rogers (US 3,573,559). Nelson's apparatus necessarily is provided with a recloser control housing. Rogers discloses a housing 12 with front and rear doors 16,17 which are independently and separately lockable. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the housing of Nelson et al. to include front and rear doors with locks as taught by Rogers for access to the front and rear of the apparatus and for preventing opening of the front and rear doors by unauthorized personnel (Figures 2 and 3, Column 2, lines 51-59).

### ***Response to Arguments***

9. Applicant's arguments filed on December 28, 2005 have been fully considered.

Applicant states that none of the prior art references describe a recloser control apparatus including a control interface system including a convertible charging system adaptable for producing control voltages for controlling trip and close apparatuses of various reclosers having different control voltage requirements. Applicant states that Nelson only teaches a system that provides compatibility with only one particular recloser. However, Nelson reference teaches that the recloser control apparatus can

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be used with various existing recloser systems of different control requirements (Column 30, lines 16-67, Column 31, lines 1-36). Therefore, with each system it produces control voltages required for the system. Because it is capable of producing control voltages for each system it would be able to produce corresponding voltage, in another words, since the system is adaptable, it would necessarily have a convertible charging system. Therefore, the reference would meet the claim language.

Applicant states that the claimed invention includes a convertible charging system adaptable for producing control voltages for controlling a trip and close apparatus of various reclosers having different control voltage requirements. The reference teaches the recloser control apparatus which can be used in existing systems which require different control voltages, it is adaptable to various systems, as it provides the necessary control voltages for various existing systems, it would necessarily include a is convertible charging system. Thus in the broadest sense, the recloser control system taught by the reference includes a convertible charging system adaptable for producing various control voltages for controlling trip and close apparatuses of various reclosers having different control voltage requirements.

Applicant's argument that the prior art references only provide for one control voltage is not true. The reference teaches a recloser control apparatus adaptable for all retrofit reclosers without regard to the capabilities of the individual device, and also teaches output voltages of 5, 12, and 24 volts which is provided as the control outputs to various reclosers.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

January 20, 2006

A handwritten signature in black ink, appearing to read 'Phuong T. Vu', with a stylized, flowing script.

**PHUONG T. VU**  
**PRIMARY EXAMINER**